

In the Claims:

Please add the following claims 6 to 10 and cancel claims 1 to 5 without prejudice:

Claims 1 to 5.(canceled)

6.(new) A method of correlating discrete-time signal segments, wherein a predetermined signal section in a signal of a signal transmission system is determined by means of the correlating, wherein the predetermined signal section is sent from a transmitter to a receiver and the position of the predetermined signal section in a received signal received by the receiver is determined in the receiver by means of a correlation between the received signal and the predetermined signal section;

wherein the predetermined signal section is stored as an erroneous hierarchical sequence and said erroneous hierarchical sequence is equal to a sum of a hierarchical sequence and an error sequence:

wherein said erroneous hierarchical sequence \tilde{h} is represented by the

hierarchical sequence h and the error sequence h^e as follows:

$$\tilde{h}(k) = h(k) + h_e(k), \quad k = 0, \dots, m-1,$$

wherein m is a natural number and defines a length of the sequences, \tilde{h}_m ,

h_m and h_m^e , and wherein elements of \tilde{h}_m and h_m have a range of values: $\{-\alpha, +\alpha\}$

and elements of h_m^e have a range of values: $\{-2\alpha, 0, +2\alpha\}$, wherein α represents any real or complex number; and

wherein said correlation is formed as a sum of a correlation between the received signal and said hierarchical sequence and a correlation between the received signal and said error sequence.

7.(new) The method as defined in claim 6, wherein the decomposition into the sum of the hierarchical sequence h_m and the error sequence h_m^e is performed so

that the error sequence h_m^e contains as few of said elements as possible that are different from zero.

8.(new) A method of correlating discrete-time signal segments, wherein a predetermined signal section in a signal of a signal transmission system is determined by means of the correlating, wherein the predetermined signal section is sent from a transmitter to a receiver and the position of the predetermined signal section in a received signal received by the receiver is

determined in the receiver by means of a correlation between the received signal and the predetermined signal section;

wherein the predetermined signal section is stored as an erroned hierarchical sequence and said erroned hierarchical sequence is equal to a sum of a hierarchical sequence and an error sequence:

wherein said erroned hierarchical sequence \tilde{h} is represented by the

hierarchical sequence h and the error sequence h_e as follows:

$$\tilde{h}(k) = h(k) + h_e(k), \quad k = 0, \dots, m-1,$$

wherein m is a natural number and defines a length of the sequences, \tilde{h} ,

h and h_e , and wherein elements of \tilde{h} and h_e have a range of values: $\{-\alpha, +\alpha\}$

and elements of h have a range of values: $\{-2\alpha, 0, +2\alpha\}$, wherein α represents

any real or complex number;

wherein said correlation is formed as a sum of a correlation between the received signal and said hierarchical sequence and a correlation between the received signal and said error sequence; and

wherein the correlation $v(k)$ of said erroned hierarchical sequence \tilde{h} with

the received signal $s(k)$ is given by

$$\begin{aligned} v(k) &= \sum_{j=0}^{m-1} h(j) \cdot s(k+j) = \sum_{j=0}^{m-1} [h(j) + h_e(j)] \cdot s(k+j) \\ &= u(k) + u_e(k) \end{aligned}$$

wherein $u(k)$ = the correlation between the hierarchical sequence h and

the received signal $s(k)$ and $u(k) = \sum_{j=0}^{m-1} h(j) \cdot s(k+j)$; and

wherein $u_e(k)$ = the correlation between the error sequence h_e and the

received signal $s(k)$ and $u_e(k) = \sum_{j=0}^{m-1} h_e(j) \cdot s(k+j)$.

9.(new) The method as defined in claim 8, wherein the decomposition into the sum of the hierarchical sequence h and the error sequence h_e is performed so

that the error sequence h_e contains as few of said elements as possible that are different from zero.

10.(new) The method as defined in claim 6 or 8, wherein said signal transmission system is a mobile telephone system.